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Director

Department of Plant Pathology

Seed Potato Certification in Oregon

BY

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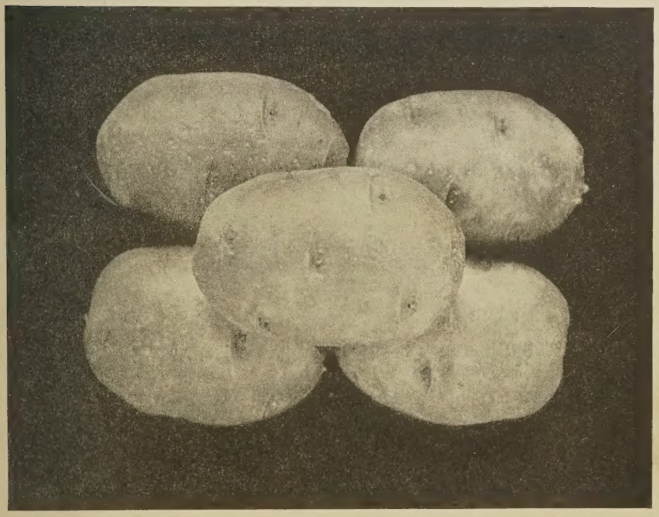

Desirable Type of Disease-Free Potatoes

Reprinted, May, 1919

CORVALLIS, OREGON

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The Bulletins of the Oregon Agricultural College are free to all residents of Oregon who request them.

SEED POTATO CERTIFICATION IN OREGON

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In 1917 a plan of official inspection and certification of seed potatoes similar to that in use in other states was inaugurated in Oregon under the direction of the Potato Certification Board of the Agricultural College. This work has met with such demand and approval that it will be continued with only slight modification of the plan formerly in use.

The Potato Certification Board is composed of H. P. Barss, Professor of Botany and Plant Pathology, G. R. Hyslop, Professor of Farm Crops, and the Inspector.

METHODS

Any grower who has good seed stock of a desirable variety may enter his potatoes for inspection by using the application blank and paying the application fee. He must treat his potatoes as outlined below under "Standards." The Inspector will then visit his farm during the season and inspect the potatoes as follows:

1. **Field Inspections.** Two regular field inspections will be made, the first about blossoming time and the second before the vines have matured, in order to detect any varietal mixures or off-type, weak, or diseased plants and to insure that all such undesirable plants are removed by the grower before maturity. In case the potatoes should not pass the first field inspection, no further inspections will be made.

2. **Bin Inspection.** After the potatoes that passed the two field inspections have been harvested, graded, and stored, they will be given one inspection in the bin for diseases, size, and trueness to variety and type. All potatoes that pass the bin inspection before January 1 will be included in the published list.

If, by these inspections, the potatoes are found to conform to the standards set by the Board, a "Certificate of Seed Potato Inspection" will be issued to the grower. At the end of the season a list of the names of the growers whose potatoes have been certified, together with their post-office addresses and the varieties certified, will be published. This will aid prospective buyers to get in touch with the growers of certified potatoes. The Potato Certification Board, however, exerts no control over the price or the sale of the certified potatoes in any way.

Official "Certified Seed Potatoes" shipping tags bearing the grower's name, post-office address, and the variety of potatoes certified will be provided at cost. All certified seed potatoes must be tagged in this way for the protection of the standards and of the purchasers.

FEES

Certification of seed potatoes is of benefit chiefly to the growers whose potatoes are inspected and certified, and only indirectly to the community and to the State. It is essentially a private service. There-

Seed Potato Certification

APPLICATION BLANK

(Read rules below carefully before filling out this blank.)

Oregon Agricultural College,
Corvallis, Oregon.

Date.....

I enclose herewith $..... application fee for the inspection of my potato field containing ..... acres, season of 19..... The varieties to be inspected are .....

(Signed) .....

P. O. Address ..... County .....

(Detach and keep rules. Mail application to
Potato Inspector, Oregon Agricultural College, Corvallis, Oregon.)

RULES GOVERNING SEED POTATO CERTIFICATION

1. Applications must be sent to the Oregon Agricultural College before July 1. No inspection will be made on applications received after this date.

2. The following fees are charged for conducting the work:

Application Fee (This must accompany the application).

4 acres or less	$3.00
Over 4 acres	5.00

Inspection Fee (From which application fee is to be deducted).

From 1 to 10 acres	$3.00 per acre
From 11 to 25 acres	2.50 per acre
26 acres and over	2.00 per acre

The inspection fee must be paid in full on notice from the Inspector before the second field inspection can be made. The full fee is required for two inspections whether a certificate is issued or not.

3. Applicants may withdraw after the first inspection upon written notice to the Agricultural College, prior to September 1, in which case the application fee is forfeited. Unless the remainder of the inspection fee is paid within 15 days after the date of notice to the applicant that such remainder is due, the Potato Certification Board will consider the application withdrawn and the other inspections will not be made.

4. Three regular inspections will be made, two in the field, the first about the time the potatoes are in blossom and the second before the plants have matured, and one in the bin after the potatoes have been graded and about a month after harvest.

5. All checks in payment of fees should be made payable to the Oregon Agricultural College, and mailed to the Potato Inspector, Oregon Agricultural College, Corvallis, Oregon.

Note: Extension Bulletin 294, Seed Potato Certification in Oregon, will be mailed free to any resident of Oregon on request.

fore the entire cost should be borne by the growers who receive the benefits. The following schedule of fees has been adopted to cover the expenses of conducting the work:

Application Fee (This must accompany the application).
4 acres or less $3.00
Over 4 acres 5.00

Inspection Fee (From which application fee is to be deducted).
From 1 to 10 acres .....$3.00 per acre
From 11 to 25 acres ..... 2.50 per acre
26 acres and over .....2.00 per acre

The inspection fee must be paid in full on notice from the Inspector before the second field inspection can be made. The full fee is required for two inspections whether a certificate is issued or not.

STANDARDS FOR CERTIFICATION

All potatoes certified by the Oregon Agricultural College shall, in the judgment of the Inspector or of the Potato Certification Board, conform to the following standards:

Seed Stock. Seed from improved stock is preferred for planting in fields entered for certification. Hill-selected stock has greater possibilities than ordinary potatoes. The College is willing to inspect seed potatoes without charge if a representative sample, at least one-half peck, is sent in, transportation prepaid, before planting time.

It is desirable that certification be restricted to well-established and well-known varieties. Communities should attempt to unite upon some one varitey or a limited number of standard market varieties.

Seed Treatment. All potatoes planted in fields entered for inspection and certification shall be treated before planting with a standard bichloride of mercury treatment. The one recommended by the Board is as follows: Bichloride of mercury (corrosive sublimate) 4 ounces to 30 gallons of water. Soak potatoes for 1½ to 2 hours, preferably in wooden (never in metal) containers, remove and drain, spread out to dry, cut and plant. Do not use one solution to treat more than four lots of potatoes as it weakens through use. Dip sacks also. If potatoes are to be greened before planting, this should be done after treatment. It is desirable after cutting the potatoes to dust the seed with land plaster.

The potatoes should be planted only on soil free from potato diseases, as otherwise the crop may have difficulty in meeting the requirements for certification.

Varietal Classification. Potatoes shall be named by their group name, with the exception of some well-marked varieties, and their local name can then be included as "strain."

Conformity to Type, and General Appearance. All potatoes must conform to varietal type and shall be reasonably uniform, symmetrical, smooth, and free from cuts, stabs, bruises, and other blemishes.

Purity of Seed Stock. Seed stock containing mixture with other varieties shall not be eligible for certification unless such mixture is removed by the grower prior to harvesting the crop. Fields containing over 5 percent of mixture shall not be eligible for certification.

Size. The tubers offered for sale shall fall within the following weight limits: For the long varieties no tubers shall weigh less than 2 ounces or more than 16 ounces. Not over 15% shall weigh over 12 ounces. For the round and half-round varieties, no tubers shall weigh less than 2 ounces or more than 20 ounces. Not over 5% shall weigh over 16 ounces.

Uniformity of Yield. At the last field inspection a reasonable number of hills shall be dug and weighed, and if 5 percent of the hills so dug shall each weigh less than 30 percent of the weight of the average hill dug, the crop shall be disqualified for certification, unless the Inspector shall consider such variation due to soil conditions alone.

Good Cultural Methods. Fields shall not be accepted for certification if they are so weedy or the vines so injured by insects or other factors that the identification of diseases is made difficult.

Comparative Freedom from Diseases and Insect Pests. Fields shall not be accepted for certification which, at the time of any field inspecion, have:

(a) More than 5 percent of the plants affected by wilt, or by blackleg, or by serious infection with Rhizoctonia (Black Scurf).

(b) A total of more than 10 percent of the plants affected by wilt, blackleg, and serious infection with Rhizoctonia (Black Scurf) combined.

(c) More than 5 percent of the plants showing well-defined curly dwarf, leaf-roll, mosaic, chlorosis, and other inherited weaknesses combined.

(d) A majority of the plants killed or dying prematurely due to serious infection of the tops with late blight.

Fields having less than the above enumerated amounts of disease shall be further considered for certification provided the weak or diseased hills, with the exception of those attacked by late blight, shall be removed under the supervision or direction of the Inspector before the crop is harvested.

Fields having late blight to a serious but not prohibitive extent shall be sprayed with Bordeaux mixture according to the directions of the Inspector.

After the crop has been graded, and about thirty days after it is harvested, it shall be inspected and shall meet the following requirements:

The selected potatoes shall be free from varietal mixtures, and from wart, powdery scab, *Rhizoctonia crocorum*, eelworms, and larvae of the potato tuber moth, and shall be practically free from late blight.

They shall be free from serious infection with common scab and Rhizoctonia (Black Scurf). A small amount of light infection with either disease will not disqualify the potatoes. They shall not contain more than 8 percent of light infection or 2 percent deep infection with wilt diseases, and shall be free from serious infection with other diseases.